

IN THE CLAIMS:

The following list of claims replaces any prior listing of claims:

1. (currently amended) A gateway device to be installed between a public telephone network and a private branch exchange to which a plurality of extension telephones are connected, said gateway device comprising:

a public telephone network connection unit configured to connect the extension telephones to said public telephone network ~~through on the outside of~~ said private branch exchange;

an Internet connection unit configured to connect the extension telephones to said Internet on the outside of said private branch exchange ~~to the Internet;~~

a connection switching unit configured to selectively connect either said public telephone network or the Internet to said private branch exchange;

a detecting unit configured to detect the use condition of a communication line connected to said private branch exchange;

a notification unit configured to transmit, to said public telephone network through said public telephone network communication unit, an outgoing call only setting signal which notifies said public telephone network that only calling is viable to said public telephone network and to inform said public telephone network that an incoming call cannot be responded, only outgoing calling being viable in a case where the communication line connected to said private branch exchange is in use,

wherein said private branch exchange is configured to switchingly connect the plurality of extension telephones with a plurality of communication lines of said public telephone network,

wherein said gateway device is provided for each of the plurality of communication lines of said public telephone network, and wherein, when the communication line connected to said private branch exchange through said gateway device is in use, a different gateway device serves to make a connection by proxy in response to a connection request issued for said gateway device in accordance with said notification unit.

2. (original) The gateway device as claimed in claim 1 wherein said notification unit notifies said public telephone network that an outgoing call process and an incoming call process are viable when the communication line connected to said private branch exchange comes to be in an unused state.

3. (cancelled)

4. (previously presented) The gateway device as claimed in claim 1 further comprising:

an identifier generation unit configured to generate a caller identifier for identifying an extension telephone connected to said private branch exchange based on a control signal from the extension telephone, and an intended recipient identifier for identifying a communication device of an intended recipient of the extension telephone;

a conversion unit configured to perform a conversion between voice signals and packet signals relating to communication for voice conversation; and

a packet transmitter receiver unit configured to transmit said packet signals to the Internet and to receive said packet signals from the Internet based on said caller identifier and said intended recipient identifier.

5. (previously presented) The gateway device as claimed in claim 4 further comprising:

a determination unit configured to output said voice signals to said public telephone network without the conversion between voice signals and packet signals depending upon said intended recipient identifier.

6. (currently amended) A private branch exchange system configured to switchingly connect between a public telephone network and a plurality of extension telephones, said private branch exchange system comprising:

a private branch exchange connected to the plurality of extension telephones and configured to switchingly connect the plurality of extension telephones with a plurality of communication lines of said public telephone network on the outside of said private branch exchange; and

a plurality of gateway devices provided for the plurality of communication lines of said public telephone network respectively, and configured to connect the extension telephones to said public telephone network through on the outside of said private branch exchange,

each of said gateway devices comprising:

a public telephone network connection unit configured to connect an extension telephone to said public telephone network through on the outside of said private branch exchange;

an Internet connection unit configured to connect said extension telephone to the Internet through on the outside of said private branch exchange;

a connection switching unit configured to selectively connect either said public telephone network or the Internet to said extension telephone;

a detecting unit configured to detect a use condition of a communication line connected to said extension telephone;

a notification unit configured to transmit, to said public telephone network through said public telephone network connection unit, an outgoing call only setting signal which notifies said public telephone network that only calling is viable to said public telephone network and to inform said public telephone network that an incoming call cannot be responded, only outgoing calling being viable in a case where the communication line connected to said extension telephone is in use,

wherein, when the communication line connected to said public telephone network through said private branch exchange of one of said gateway devices is in use, a different gateway device serves to make a connection by proxy in response to a connection request issued for said one of said gateway devices in accordance with said notification unit.

7. (original) The private branch exchange system as claimed in claim 6 wherein said notification unit notifies said public telephone network that an outgoing call process and an incoming call process are viable when the communication line connected to said private branch exchange comes to be in an unused state.

8. (cancelled)

9. (previously presented) The private branch exchange system as claimed in claim 6 further comprising:

an identifier generation unit configured to generate a caller identifier for identifying the extension telephone connected to said public telephone network through said private branch exchange based on a control signal from the extension telephone, and an intended recipient identifier for identifying a communication device of the intended recipient of the extension telephone;

a conversion unit configured to perform conversion between voice signals and packet signals relating to communication for voice conversation; and

a packet transmitter receiver unit configured to transmit said packet signals to the Internet and to receive said packet signals from the Internet based on said caller identifier and said intended recipient identifier.

10. (previously presented) The private branch exchange system as claimed in claim 9 further comprising:

a determination unit configured to output said voice signals to said public telephone network without the conversion between voice signals and packet signals, depending upon said intended recipient identifier.

11. (currently amended) An extension telephone switching method of switchingly connecting between a public telephone network and a plurality of extension telephones, by the use of a private branch exchange system, said private branch exchange system comprising:

a private branch exchange connected to the plurality of extension telephones and configured to switchingly connect the plurality of extension telephones with a plurality of communication lines of said public telephone network; and

a plurality of gateway devices provided for each of the plurality of communication lines of said public telephone network respectively, and configured to connect the extension telephones to said public telephone network through on the outside of said private branch exchange,

said extension telephone switching method comprising:

a step of having one of said gateway devices on the outside of said private branch exchange selectively connect either said public telephone network or the Internet to said extension telephone;

a step of having said gateway device detect a use condition of a communication line connected to said extension telephones;

a step of transmitting, to said public telephone network through said gateway device, an outgoing call only setting signal which notifies said public telephone network that only calling is viable to said public telephone network and to inform said public telephone network that an incoming call cannot be responded, only outgoing calling being viable in a case where the communication line connected to said extension telephones is in use; and

a step of having, when the communication line connected to said private branch exchange through one of said gateway devices is in use, a different gateway device make a connection by proxy in response to a connection request issued for said one of said gateway devices in accordance with said notification.

12. (previously presented) The extension telephone switching method as claimed in claim 11 further comprising:

notifying said public telephone network that an outgoing call process and an incoming call process are viable when the communication line connected to said extension telephone comes to be in an unused state.

13. (cancelled)